

FILE 'USPAT' ENTERED AT 06:36:12 ON 08 JUN 93

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*           WELCOME TO THE           *
*           U. S.  PATENT TEXT FILE   *
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=> s vinyl and chloride and resin

105545 VINYL

228305 CHLORIDE

184031 RESIN

L1 35562 VINYL AND CHLORIDE AND RESIN

=> s polyurethane and thermoplastic

51292 POLYURETHANE

70995 THERMOPLASTIC

L2 11012 POLYURETHANE AND THERMOPLASTIC

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=> s alkyl and phthalic and ester

178119 ALKYL  
22413 PHTHALIC  
117286 ESTER

L3 11991 ALKYL AND PHTHALIC AND ESTER

=> s (talc or mica or calcined clay or caoline clay)

37873 TALC  
12266 MICA  
19591 CALCINED  
39285 CLAY  
953 CALCINED CLAY  
(CALCINED(W)CLAY)  
31 CAOLINE  
39285 CLAY  
3 CAOLINE CLAY  
(CAOLINE(W)CLAY)

L4 45609 (TALC OR MICA OR CALCINED CLAY OR CAOLINE CLAY)

=> s 11 and 12 and 13

L5 605 L1 AND L2 AND L3

=> s 15 and 14

L6 253 L5 AND L4

=> s 16 and talc

37873 TALC

L7 220 L6 AND TALC

=> s 16 and mica

12266 MICA

L8 86 L6 AND MICA

=> s (air bag devices or steering wheel pads or shift lever boots)

496915 AIR  
41350 BAG  
487818 DEVICES  
40 AIR BAG DEVICES  
(AIR(W)BAG(W)DEVICES)  
33490 STEERING  
149719 WHEEL  
46608 PADS  
2 STEERING WHEEL PADS  
(STEERING(W)WHEEL(W)PADS)  
150892 SHIFT  
132232 LEVER  
4435 BOOTS  
1 SHIFT LEVER BOOTS  
(SHIFT(W)LEVER(W)BOOTS)

L9 43 (AIR BAG DEVICES OR STEERING WHEEL PADS OR SHIFT LEVER BOOT

S)

=> s (assist grips or hoses or films or artificial leathers or gaskets or conductor coverings)

88528 ASSIST  
19715 GRIPS  
1 ASSIST GRIPS  
(ASSIST(W)GRIPS)  
18664 HOSES  
87827 FILMS  
33090 ARTIFICIAL  
1070 LEATHERS  
150 ARTIFICIAL LEATHERS  
(ARTIFICIAL(W)LEATHERS)  
14033 GASKETS  
115499 CONDUCTOR

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## 9 CONDUCTOR COVERINGS

(CONDUCTOR(W)COVERINGS)

L10 118408 (ASSIST GRIPS OR HOSES OR FILMS OR ARTIFICIAL LEATHERS OR G  
ASK

ETS OR CONDUCTOR COVERINGS)

=&gt; d his

(FILE 'USPAT' ENTERED AT 06:36:12 ON 08 JUN 93)

L1 35562 S VINYL AND CHLORIDE AND RESIN  
L2 11012 S POLYURETHANE AND THERMOPLASTIC  
L3 11991 S ALKYL AND PHTHALIC AND ESTER  
L4 45609 S (TALC OR MICA OR CALCINED CLAY OR CAOLINE CLAY)  
L5 605 S L1 AND L2 AND L3  
L6 253 S L5 AND L4  
L7 220 S L6 AND TALC  
L8 86 S L6 AND MICA  
L9 43 S (AIR BAG DEVICES OR STEERING WHEEL PADS OR SHIFT LEVER B  
OOT  
L10 118408 S (ASSIST GRIPS OR HOSES OR FILMS OR ARTIFICIAL LEATHERS  
OR

=&gt; s 15 and aliphatic polyurethane

104438 ALIPHATIC

51292 POLYURETHANE

259ALIPHATIC POLYURETHANE

(ALIPHATIC(W)POLYURETHANE)

L11 7 L5 AND ALIPHATIC POLYURETHANE

=&gt; d 111 cit ab 1-7 cit ab

1. 5,162,405, Nov. 10, 1992, Single-functional and mixtures of multi-functional oligomeric performance additive compositions and their uses; Ronald E. MacLeay, et al., 524/91, 102, 121, 128, 199, 208, 209, 219, 220, 222, 225, 281, 289, 291; 546/190; 548/260, 261; 558/156, 157, 165, 266, 267, 402; 560/9, 15, 25, 60, 67, 152; 564/154, 158 [IMAGE AVAILABLE]

US PAT NO: 5,162,405 [IMAGE AVAILABLE]

Lil: 1 of 7

## ABSTRACT:

The present invention comprises novel single-functional and mixtures of multi-functional oligomeric performance additive compounds having one or more components of Structure A R1 ? ? ##STR1## (The definitions of R, Z1, Z2, Z3, A1, A2, A3 and y are given in the Summary Section), their uses and polymeric compounds and compositions containing them which have enhanced oxidative stabilities, enhanced ultraviolet (UV) and light stabilities and/or enhanced flame retardance. An example is the bis sulfonic acid bispotassium salt reaction product from an oligomeric caprolactone diol (TONE.RTM. 260), 2-sulfobenzoic acid anhydride and potassium carbonate, and use of this product, at levels up to about 3.0%, in a general purpose bisphenol A polycarbonate resin, to enhance the fire resistance or flame retardance of the polycarbonate resin.

1. 5,162,405, Nov. 10, 1992, Single-functional and mixtures of multi-functional oligomeric performance additive compositions and their uses; Ronald E. MacLeay, et al., 524/91, 102, 121, 128, 199, 208, 209, 219, 220, 222, 225, 281, 289, 291; 546/190; 548/260, 261; 558/156, 157, 165, 266, 267, 402; 560/9, 15, 25, 60, 67, 152; 564/154, 158 [IMAGE AVAILABLE]

## ABSTRACT:

The present invention comprises novel single-functional and mixtures of multi-functional oligomeric performance additive compounds having one or more components of Structure A R1 ? ? ##STR1## (The definitions of R, Z1

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Z2, Z3, A1, A2, A3 and y are given in the Summary Section). their uses and polymeric compounds and compositions containing them which have enhanced oxidative stabilities, enhanced ultraviolet (UV) and light stabilities and/or enhanced flame retardance. An example is the bis sulfonic acid bispotassium salt reaction product from an oligomeric caprolactone diol (TONE.RTM. 260), 2-sulfobenzoic acid anhydride and potassium carbonate, and use of this product, at levels up to about 3.0%, in a general purpose bisphenol A polycarbonate resin, to enhance the fire resistance or flame retardance of the polycarbonate resin.

2. 5,013,777, May 7, 1991, Novel single-functional and mixtures of multi-functional oligomeric performance additive compositions and their uses; Ronald E. MacLeay, et al., 524/159, 94, 109, 136, 140, 145, 161, 163, 164, 219, 281, 288; 548/479; 549/553, 561; 558/157, 163, 165, 268; 560/14, 83, 158; 562/47, 52; 564/136, 154, 155, 158 [IMAGE AVAILABLE]

US PAT NO: 5,013,777 [IMAGE AVAILABLE]

L11: 2 of 7

ABSTRACT:

The present invention comprises novel single-functional and mixtures of multi-functional oligomeric performance additive compounds having one or more components of Structure A ##STR1## (The definitions of R, Z1, Z2, Z3, A1, A2, A3 and y are given in the Summary Section), their uses and polymeric compounds and compositions containing them which have enhanced oxidative stabilities, enhanced ultraviolet (UV) and light stabilities and/or enhanced flame retardance. An example is the bis sulfonic acid bispotassium salt reaction product from an oligomeric caprolactone diol (TONE.RTM. 260), 2-sulfobenzoic acid anhydride and potassium carbonate, and use of this product, at levels up to about 3.0%, in a general purpose bisphenol A polycarbonate resin, to enhance the fire resistance or flame retardance of the polycarbonate resin.

2. 5,013,777, May 7, 1991, Novel single-functional and mixtures of multi-functional oligomeric performance additive compositions and their uses; Ronald E. MacLeay, et al., 524/159, 94, 109, 136, 140, 145, 161, 163, 164, 219, 281, 288; 548/479; 549/553, 561; 558/157, 163, 165, 268; 560/14, 83, 158; 562/47, 52; 564/136, 154, 155, 158 [IMAGE AVAILABLE]

ABSTRACT:

The present invention comprises novel single-functional and mixtures of multi-functional oligomeric performance additive compounds having one or more components of Structure A ##STR1## (The definitions of R, Z1, Z2, Z3, A1, A2, A3 and y are given in the Summary Section), their uses and polymeric compounds and compositions containing them which have enhanced oxidative stabilities, enhanced ultraviolet (UV) and light stabilities and/or enhanced flame retardance. An example is the bis sulfonic acid bispotassium salt reaction product from an oligomeric caprolactone diol (TONE.RTM. 260), 2-sulfobenzoic acid anhydride and potassium carbonate, and use of this product, at levels up to about 3.0%, in a general purpose bisphenol A polycarbonate resin, to enhance the fire resistance or flame retardance of the polycarbonate resin.

3. 4,933,220, Jun. 12, 1990, Method of seam coating flooring; James R. Petzold, et al., 428/61; 427/256; 428/58 [IMAGE AVAILABLE]

US PAT NO: 4,933,220 [IMAGE AVAILABLE]

L11: 3 of 7

ABSTRACT:

The seam of a surface covering product, having an exposed surface which is the reaction product of a protective coating composition including an aminoplast and a polyol, is coated with a seam coating composition including a cyanoacrylate monomer and a plasticizer. The preferred monomer is methyl 2-cyanoacrylate, ethyl 2-cyanoacrylate or methoxy ethyl 2-cyanoacrylate. The preferred plasticizer is dibutyl phthalate. The seam coating should have a viscosity of about 100 CPS. An accelerator may be applied to the uncured seam coating.

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3. 4,933,220, Jun. 12, 1990, Method of seam coating flooring; James R. Petzold, et al., 428/61; 427/256; 428/58 [IMAGE AVAILABLE]

ABSTRACT:

The seam of a surface covering product, having an exposed surface which is the reaction product of a protective coating composition including an aminoplast and a polyol, is coated with a seam coating composition including a cyanoacrylate monomer and a plasticizer. The preferred monomer is methyl 2-cyanoacrylate, ethyl 2-cyanoacrylate or methoxy ethyl 2-cyanoacrylate. The preferred plasticizer is dibutyl phthalate. The seam coating should have a viscosity of about 100 CPS. An accelerator may be applied to the uncured seam coating.

4. 4,786,657, Nov. 22, 1988, Polyurethanes and polyurethane /polyureas crosslinked using 2-glyceryl acrylate or 2-glyceryl methacrylate; W. James Hammar, et al., 522/90, 148, 149, 164; 526/301, 302, 303.1; 528/26, 28, 75

US PAT NO: 4,786,657

Lii: 4 of 7

ABSTRACT:

A crosslinkable polyurethane or polyurethane /polyurea comprises the reaction product of a composition comprising a macrodiol or macrodiamine, 2-glyceryl acrylate or 2-glyceryl methacrylate, a diisocyanate, and optionally a small glycol or small diamine as chain extender. The performance properties of the polyurethanes and polyurethane /polyureas can be controlled by adjustment of the crosslink level and/or curing parameters.

4. 4,786,657, Nov. 22, 1988, Polyurethanes and polyurethane /polyureas crosslinked using 2-glyceryl acrylate or 2-glyceryl methacrylate; W. James Hammar, et al., 522/90, 148, 149, 164; 526/301, 302, 303.1; 528/26, 28, 75

ABSTRACT:

A crosslinkable polyurethane or polyurethane /polyurea comprises the reaction product of a composition comprising a macrodiol or macrodiamine, 2-glyceryl acrylate or 2-glyceryl methacrylate, a diisocyanate, and optionally a small glycol or small diamine as chain extender. The performance properties of the polyurethanes and polyurethane /polyureas can be controlled by adjustment of the crosslink level and/or curing parameters.

5. 4,762,751, Aug. 9, 1988, Flexible, chemically treated bundles of fibers, woven and nonwoven fabrics and coated bundles and fabrics thereof; Mikhail M. Girgis, et al., 428/378; 65/3.4i, 3.43, 3.44; 428/266, 268, 273, 375, 391, 392, 394, 395

US PAT NO: 4,762,751

Lii: 5 of 7

ABSTRACT:

More flexible bundles of high modulus, low elongation fibers are provided by the impregnated bundles of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially-cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more elastomeric curable polyurethanes that are water soluble, emulsifiable or dispersible and one or more crosslinking materials that are water soluble, emulsifiable or dispersible and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials and flame retardants. The flexible impregnated

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bundles of glass fibers are useful in reinforcing polymers and fiber optic and drop-wire cables and in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

5. 4,762,751, Aug. 9, 1988, Flexible, chemically treated bundles of fibers, woven and nonwoven fabrics and coated bundles and fabrics thereof; Mikhail M. Girgis, et al., 428/378; 65/3.41, 3.43, 3.44; 428/266, 268, 273, 375, 391, 392, 394, 395

**ABSTRACT:**

More flexible bundles of high modulus, low elongation fibers are provided by the impregnated bundles of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially-cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more elastomeric curable polyurethanes that are water soluble, emulsifiable or dispersible and one or more crosslinking materials that are water soluble, emulsifiable or dispersible and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials, and flame retardants. The flexible impregnated bundles of glass fibers are useful in reinforcing polymers and fiber optic and drop-wire cables and in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

6. 4,762,750, Aug. 9, 1988, Flexible, chemically treated bundles of fibers and process; Mikhail M. Girgis, et al., 428/378; 65/3.41, 3.43, 344; 428/375, 391, 392, 394, 395

US PAT NO: 4,762,750

Li: 6 of 7

**ABSTRACT:**

More flexible bundles of high modulus, low elongation fibers are produced by the impregnated bundles and process of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more water soluble, dispersible or emulsifiable elastomeric polymers that are essentially free of hydrocarbon diene and chlorine functionalities, and one or more crosslinking materials that are water soluble, emulsifiable or dispersible, and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials, waxes, diene-containing latices and flame retardants. The flexible impregnated bundles of glass fibers are useful in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

6. 4,762,750, Aug. 9, 1988, Flexible, chemically treated bundles of fibers and process; Mikhail M. Girgis, et al., 428/378; 65/3.41, 3.43, 344; 428/375, 391, 392, 394, 395

**ABSTRACT:**

More flexible bundles of high modulus, low elongation fibers are produced by the impregnated bundles and process of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous

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sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more water soluble, dispersible or emulsifiable elastomeric polymers that are essentially free of hydrocarbon diene and chlorine functionalities, and one or more crosslinking materials that are water soluble, emulsifiable or dispersible, and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials, waxes, diene-containing latices and flame retardants. The flexible impregnated bundles of glass fibers are useful in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

7. 3,803,069, Apr. 9, 1974, GLASS FIBER SIZE OF CURABLE, BLOCKED POLYURETHANE EMULSION WITH AMINO SILANE; Donald E. McWilliams, et al., 523/414; 65/3.44; 428/107, 425.6; 524/591

US PAT NO: 3,803,069

Lii: 7 of 7

ABSTRACT:

Nylon resin is reinforced with glass fiber strand which is sized during forming with a size composed of an aqueous, stable emulsion of a polyurethane resin, an amino silane, a textile lubricant and an emulsifying agent.

7. 3,803,069, Apr. 9, 1974, GLASS FIBER SIZE OF CURABLE, BLOCKED POLYURETHANE EMULSION WITH AMINO SILANE; Donald E. McWilliams, et al., 523/414; 65/3.44; 428/107, 425.6; 524/591

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L1 35562 S VINYL AND CHLORIDE AND RESIN  
L2 11012 S POLYURETHANE AND THERMOPLASTIC  
L3 11991 S ALKYL AND PHTHALIC AND ESTER  
L4 45609 S (TALC OR NICA OR CALCINED CLAY OR CAOLINE CLAY)  
L5 605 S L1 AND L2 AND L3  
L6 253 S L5 AND L4  
L7 220 S L6 AND TALC  
L8 86 S L6 AND NICA  
L9 43 S (AIR BAG DEVICES OR STEERING WHEEL PADS OR SHIFT LEVER B  
OOT  
L10 118408 S (ASSIST GRIPS OR HOSES OR FILMS OR ARTIFICIAL LEATHERS  
OR  
L11 7 S L5 AND ALIPHATIC POLYURETHANE

=> s l1 and soft

114908 SOFT

L12 6123 L1 AND SOFT

=> s l12 and l2 and l3

L13 160 L12 AND L2 AND L3

=> s l13 and aliphatic polyurethane

104438 ALIPHATIC

51292 POLYURETHANE

259 ALIPHATIC POLYURETHANE

(ALIPHATIC(W)POLYURETHANE)

L14 3 L13 AND ALIPHATIC POLYURETHANE

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=> d 114 cit ab 1-3

1. 4,933,220, Jun. 12, 1990, Method of seam coating flooring; James R. Petzold, et al., 428/61; 427/256; 428/58 [IMAGE AVAILABLE]

US PAT NO: 4,933,220 [IMAGE AVAILABLE]

Li4: 1 of 3

ABSTRACT:

The seam of a surface covering product, having an exposed surface which is the reaction product of a protective coating composition including an aminoplast and a polyol, is coated with a seam coating composition including a cyanoacrylate monomer and a plasticizer. The preferred monomer is methyl 2-cyanoacrylate, ethyl 2-cyanoacrylate or methoxy ethyl 2-cyanoacrylate. The preferred plasticizer is dibutyl phthalate. The seam coating should have a viscosity of about 100 CPS. An accelerator may be applied to the uncured seam coating.

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US PAT NO: 4,786,657

Li4: 2 of 3

ABSTRACT:

A crosslinkable polyurethane or polyurethane /polyurea comprises the reaction product of a composition comprising a macrodiol or macrodiamine, 2-glyceryl acrylate or 2-glyceryl methacrylate, a diisocyanate, and optionally a small glycol or small diamine as chain extender. The performance properties of the polyurethanes and polyurethane /polyureas can be controlled by adjustment of the crosslink level and/or curing parameters.

3. 4,762,751, Aug. 9, 1988, Flexible, chemically treated bundles of fibers, woven and nonwoven fabrics and coated bundles and fabrics thereof; Mikhail M. Girgis, et al., 428/378; 65/3.41, 3.43, 3.44; 428/266, 268, 273, 375, 391, 392, 394, 395

US PAT NO: 4,762,751

Li4: 3 of 3

ABSTRACT:

More flexible bundles of high modulus, low elongation fibers are provided by the impregnated bundles of the present invention. The flexible bundle of fibers comprise a plurality of fibers having a first treatment of a moisture-reduced residue of an aqueous chemical composition and a second treatment of a moisture-reduced, partially-cured impregnant of an aqueous chemical coating composition. The individual fibers in the impregnated bundle were first treated with an aqueous sizing composition having at least a fiber protectorant and optionally an antistatic agent and/or coupling agent. The impregnating composition has one or more elastomeric curable polyurethanes that are water soluble, emulsifiable or dispersible and one or more crosslinking materials that are water soluble, emulsifiable or dispersible and water. Optionally, there may be present one or more emulsifiable or dispersible lubricants, plasticizers, polymeric materials, and flame retardants. The flexible impregnated bundles of glass fibers are useful in reinforcing polymers and fiber optic and drop-wire cables and in producing woven and nonwoven fabrics where the fabrics can be coated with polymeric films.

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